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y
Al₂O₃/Fe/Mo catalyst, and wherein the catalyst has a molar ratio of Al₂O₃:Fe:Mo of about (10-20) : 1 : 1/3.

6. (amended) A process of claim 1, wherein said methane gas composition is methane or a mixture of methane and a carrier gas.

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Al₂O₃/Fe/Mo catalyst to a chemical vapor deposition chamber, and

9. (amended) A chemical vapor deposition process for the preparation of single-wall carbon nanotubes, comprising:

decomposing the methane gas composition in the presence of the Al₂O₃/Fe/Mo catalyst, under a sufficient gas pressure and for a time sufficient, to grow single-wall carbon nanotubes at a temperature from about 670° C to about 800° C,

wherein said single-wall carbon nanotubes have a diameter distribution ranging from about 0.7 nm to about 2.1 nm.

10. (amended) A process of claim 9, wherein the Al₂O₃/Fe/Mo catalyst has a molar ratio of Al₂O₃:Fe:Mo of about (10-20) : 1 : 1/3.

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Al₂O₃/Fe/Co/Mo catalyst to a chemical vapor deposition chamber, and

13. (amended) A chemical vapor deposition process for the preparation of single-wall carbon nanotubes, comprising:

decomposing the methane gas composition in the presence of the Al₂O₃/Fe/Co/Mo catalyst, under a sufficient gas pressure and for a time sufficient, to grow single-wall carbon nanotubes at a temperature from about 680° C to about 800° C

wherein said single-wall carbon nanotubes have a diameter distribution ranging from about 0.7 nm to about 2.1 nm.

14. (amended) A process of claim 13, wherein the Al₂O₃/Fe/Co/Mo catalyst has a molar ratio of Al₂O₃:Fe:Co:Mo of about (10-20) : 1 : 0.23 : $\frac{1}{6}$.

15. (amended) A process of claim 13, wherein the Al₂O₃/Fe/Co/Mo catalyst has a molar ratio of Al₂O₃:Fe:Co:Mo of about (10-20) : 1 : 0.23 : $\frac{1}{18}$.

16. (amended) A process of claim 13, wherein the Al₂O₃/Fe/Co/Mo catalyst has a molar ratio of Al₂O₃:Fe:Co:Mo of about (10-20) : 1 : 0.23 : $\frac{1}{36}$.
